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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/357,175	07/19/1999	GEORGE MILEOS	C29545/09561	8850

7590

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EXAMINER

MORRISON, NASCHICA SANDERS

ART UNIT

PAPER NUMBER

3632

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/357,175

Applicant(s)

MILEOS ET AL.

Examiner

Naschica S Morrison

Art Unit

3632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,9,10,15-31,33,35-37,42-44,46-57 and 61-96 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,10,15-31,33,35-37,42-44,46-57 and 61-96 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is the second Office Action for serial number 09/357,175, Improved Keyboard Support Mechanism, filed on July 19, 1999. Claims 1-5,7,9,10,15-31,33,35-37,42-44,46-57,61-96 are pending.

Information Disclosure Statement

The information disclosure statement filed 7/27/01 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

The disclosure is objected to because of the following informalities: on page 1, line 4, insert -- continuation of 08/995,889, filed December 22, 1997, now U.S. Patent 5,924,664, which is a-- before "continuation-in-part"; on page 8, line 14 "arms" should be --arm--; on page 9, line 3 insert --a-- before "consistent"; on page 11, line 23 "49" should be --47--; on page 13, line 14 "63" does not identify the "handle of adjustment lever 56" in the drawings and on line 23, insert --be-- after "it will"; on page 14, line 16, delete "the" after "at" and on line 21, insert --be-- before "permitted". Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show *threads* on rod (50) in Fig. 13 and *threads* on the inner surface of fastener (55) in Fig. 16 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "auxiliary shelf" as claimed in claim 55 must be shown or the feature canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: numeral 45. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "43" has been used to designate both "cam" in Fig. 12 and

"opening" in Fig. 8. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign not mentioned in the description: numeral 30 in Fig. 3. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 15 is objected to because of the following informalities: on line 3, "point,," should be --point,--. Appropriate correction is required.

Claim 18 is objected to because of the following informalities: on line 2, "with is" should be --is with--. Appropriate correction is required.

Claim 53 is objected to because of the following informalities: on line 7, "angles" should be --angled--. Appropriate correction is required.

Claims 61 and 68 are objected to because of the following informalities: the subheadings within the claims should be lettered rather than numbered to reduce confusion with claim numbers and to be more consistent with other claims (see claims 69,78,etc.).

Claim 66 is objected to because of the following informalities: on line 2, "pper" should be --upper-- and on line 3, insert --engagement-- before "with said". Appropriate correction is required.

Claim 68 is objected to because of the following informalities: on line 12, "connections" should be --connection--. Appropriate correction is required.

Claims 69,79, and 94 are objected to because of the following informalities: on lines 11 and 2 respectively, "being" should be --is--. Appropriate correction is required.

Claims 77 and 93 are objected to because of the following informalities: on lines 2 and 20 respectively, "arms" should be --arm--. Appropriate correction is required.

Claim 96 is objected to because of the following informalities: on line 4, insert --,-- before "wherein". Appropriate correction is required.

Claim Rejections – 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 54 and 96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 54 recites the limitation "the ground" in line 25. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 96, line 5 has ambiguous claim terminology where it is unclear whether latter recitations of originally cited terminology are intended to refer to the

originally cited terms. It is unclear if "a linkage arm" in claim 96, line 5 is intended to refer to one of "at least two linkage arms" in claim 96, line 2. "A linkage arm" should be --one of said linkage arms-- to provide proper antecedent basis.

Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 55 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,300,201 to Du Vall. With regards to claims 55 and 56, Du Vall discloses an auxiliary shelf mechanism (Figs. 1-2b) including an auxiliary shelf (14) having a top and bottom surface and a parallelogram linkage (16) to attach the shelf to a support surface (12) so that the shelf may be moved vertically relative to the support surface (12), wherein the linkage is attached to the shelf (14) so that no part of the shelf mechanism extends below the bottom surface of the shelf (see Fig. 2).

Claim 68 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,292,097 to Russell. With regards to claim 68, Russell discloses an auxiliary shelf mechanism, for vertically positioning a shelf/keyboard, including an articulating arm mechanism comprising: a mounting bracket (13) for attachment to a base (10); a parallelogram linkage (Figs. 20-21) having a first end for mounting a shelf (11) and a second end pivotally connected to the mounting bracket (13) for permitting vertical

swinging movement of the shelf relative to the mounting bracket between lower and upper positions, the linkage including an upper link/arm (16), a lower link/side arm (15), a first end link/shelf bracket (14), and first, second, third, and fourth pivot connections having parallel axes; wherein the upper link (16) has opposite ends pivotally coupled to the first end link (14) and the mounting bracket (13) by the first and second pivot connections, one end of the lower link (15) is pivotally coupled to the first end link (14) by the third pivot connection, and the second end of the linkage is pivotally connected to the mounting member (13) solely by the second pivot connection; and a stopping means attached to an inside face of the mounting bracket (13) and including a first engagement surface (36) on the linkage and a second engagement surface (35) of the mounting member (13), the first engagement surface (36) being normally gravitationally biased into engagement with the second engagement surface (35) and being released from engagement by applying an upwardly directed manual force (col. 6, lines 54-65). Russell discloses: the lower link/side arm (15) being able to pivot and reciprocatingly move relative to the fourth pivot/crank and slider joint (29,30); the stopping means having a concave stopping surface (35) facing and capable of frictionally engaging the convex rear surface (36) of the lower link/side arm (15); interconnecting projections/teeth (35,36 in Fig. 17) serving as "fixing means" and a "locking mechanism"; and the stopping means including angled surfaces (Fig. 22).

Claim 96 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,644,875 to Watt. With regards to claim 96, Watt discloses an auxiliary shelf mechanism including an articulating arm mechanism comprising: a mechanism

including two linkage arms (76,78) connecting a mounting bracket (18) and shelf bracket (22) having a shelving surface (68), wherein at least one (76) of the linkage arms is connected to the shelf bracket (22) at a pivot connection (82) above the shelving surface (see Fig. 4).

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,7,9,10,15-17,19-31,33,35-37,42-44,46-54,61-67, and 69-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell as applied to claim 68 above, and further in view of U.S. Patent 5,257,767 to McConnell. Regarding claims 1-5,7,9,10,15-17,19-31,33,35-37,42-44,46-54,61-67, and 69-77, Russell discloses the mechanism as applied above but does not teach the first/upper and second/lower arms not being substantially parallel to each other. McConnell discloses a shelf mechanism comprising: a first/upper arm (18) pivotally connected to a mounting bracket (16) and shelf bracket (79) by first and second pivot points (71,77); a second/lower arm (20) connected to the shelf bracket by a third pivot point (81) and to the mounting bracket by a fourth pivot point (75); wherein the first and second arms (18,20) are not substantially parallel to each other. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the articulating arm mechanism by

providing a non-parallelogram linkage because one would have been motivated to provide for effective clockwise movement of the shelf as the linkage is moved to a storage position as taught by McConnell (col. 6, lines 45-50). Russell fails to teach the auxiliary shelf mechanism being capable of horizontally positioning the shelf. McConnell further teaches a means for rotatably attaching the shelf (24) to a base/desk (10) comprising: a mounting track (14); a swivel mechanism (40,42) associated with the mounting bracket (16) for rotating the arm mechanism (18,20); the swivel mechanism positioned in combination with the mounting track to which the mounting bracket is slidably connected. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the auxiliary shelf mechanism by providing a mounting track and swivel mechanism because one would have been motivated to provide a support mechanism which provides for improved ease of storage of the keyboard shelf beneath a desk and which may be easily positioned in an orientation for use as taught by McConnell (col. 2, lines 43-47). Additionally, Russell fails to teach a spring for biasing either the first or second arm. McConnell teaches a coil spring (72) connected to the first pivot rod (71) and the mounting bracket (16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the mechanism by including a spring attached to the first arm because one would have been motivated to provide a means for biasing the linkage in the clockwise direction as taught by McConnell (col. 5, lines 56-59). Russell also fails to teach the first, second, and third pivot connections including rods and the fourth pivot connection including a bolt. McConnell teaches the pivot connections including pivot

rods (71,75,77) and a bolt (81). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pivot connections by including pivot rods and a bolt as a known means for pivotably connecting the members of the arm mechanism and as taught by McConnell. Russell fails to teach two lower/side arms (15). McConnell teaches the first/upper arm (18) pivotally connected at two separate locations (85 - Fig. 6) to the two side arms of lower arm (20) that are integrally connected at end (95). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the linkage of Russell by providing two separate points of attachment between the first/upper and second/lower arms and two stopping means for the side arms in order to provide symmetric, stable support as taught by McConnell and as was generally known in the art.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of McConnell as applied above, and further in view of U.S. Patent 5,037,867 to Cotterill. Regarding claim 18, Russell in view of McConnell discloses the mechanism as applied above including a crank and slider joint (29,30) and stopping mechanism (35,36) for adjusting the position of the linkage relative to the mounting bracket (13). Russell in view of McConnell does not teach a locking knob for fixing the side/lower arm (15). Cotterill discloses a keyboard support comprising a linkage (22,24,25,31,27) having a crank and slider joint (29,30) consisting of a threaded pivot pin (29) engaged by a locking knob (shown as 29 in Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the mechanism by providing the threaded pin and locking knob as an alternative means for

adjusting the linkage and to facilitate adjustment to a desired angle and tilt with only one hand as taught by McConnell (col. 2, lines 42-50).

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Du Vall as applied to claims 55-56 above, in view of McConnell. Regarding claim 57, Du Vall discloses the auxiliary shelf mechanism as applied above but does not teach a non-parallel linkage. McConnell discloses the shelf mechanism as applied above, wherein the first and second arms (18,20) of the linkage are not parallel to each other. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the auxiliary shelf mechanism by providing a non-parallel linkage because one would have been motivated to provide for effective clockwise movement of the shelf as the linkage is moved to a storage position as taught by McConnell (col. 6, lines 45-50).

Claims 78-82 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell as applied to claim 68 above, and further in view of Watt. Regarding claims 78-82 and 86, Russell discloses the mechanism as applied above but does not teach the shelf bracket (14) being pivotally connected to the front portion of the first/upper arm (16) by at least one pivot positioned above a shelving surface (at 14). Watt discloses the auxiliary shelf mechanism as applied to claim 96 above, and further teaches the first/upper arm (76) pivotally connected to the shelf bracket (22) at a pivot connection (82) above the shelving surface (see Fig. 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the articulating arm mechanism by providing a pivot connection between the first/upper arm

and shelf bracket located above the shelving surface as an alternative means for pivotally supporting the shelf bracket and as taught by Watt.

Claims 83-85 and 87-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of Watt as applied to claims 78-82 and 86 above, and further in view of McConnell. Regarding claims 83-85 and 87-95, Russell discloses the shelf mechanism as applied above but does not teach but fails to teach the auxiliary shelf mechanism being capable of horizontally positioning the shelf. McConnell further teaches a means for rotatably attaching the shelf (24) to a base/desk (10) comprising: a mounting track (14); a swivel mechanism (40,42) associated with the mounting bracket (16) for rotating the arm mechanism (18,20); the swivel mechanism positioned in combination with the mounting track to which the mounting bracket is slidably connected. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the auxiliary shelf mechanism by providing a mounting track and swivel mechanism because one would have been motivated to provide a support mechanism which provides for improved ease of storage of the keyboard shelf beneath a desk and which may be easily positioned in an orientation for use as taught by McConnell (col. 2, lines 43-47). Russell does not teach the first/upper and second/lower arms not being parallel to each other. McConnell discloses the shelf mechanism as applied above, wherein the first and second arms (18,20) are not substantially parallel to each other. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the articulating arm mechanism by providing a non-parallelogram linkage because one would have been

Art Unit: 3632

motivated to provide for effective clockwise movement of the shelf as the linkage is moved to a storage position as taught by McConnell (col. 6, lines 45-50). Additionally, Russell fails to teach a spring for biasing either the first or second arm. McConnell teaches a coil spring (72) connected to the first pivot rod (71) and the mounting bracket (16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the mechanism by including a spring attached to the first arm because one would have been motivated to provide a means for biasing the linkage in the clockwise direction as taught by McConnell (col. 5, lines 56-59).

Response to Arguments

Applicant's arguments with respect to claims 1-5,7,9,10,15-31,33,35-37,42-44,46-57,61-96 have been considered but are moot in view of the new grounds of rejection.

Conclusion

The prior art made of record and not relied upon is considered to be pertinent to applicant's disclosure:

5791263 to Watt et al.; 5924666 to Liu; 6021985 to Hahn; 6148739 to Martin; 6176456 to Wisniewski; 6186460 to Lin; 6199809 to Hung; 6227508 to Panzarella et al.; 6270047 to Hudson; 62673382 to Pemberton; US2001/0035482 to Timm; 6322031 to LeClair et al; 6336617 to Barber et al; 6336618 to Barber; 6343775 to Jones et al.

The above references disclose movable auxiliary support mechanisms similar to Applicant's invention.


Art Unit: 3632

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Naschica S. Morrison, whose telephone number is (703) 305-0228. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leslie Braun can be reached at 703-308-2156. The fax machine telephone number for the Technology Center is (703) 305-3598 (formal amendments) or (703) 308-3686 (informal amendment/communication).

Any inquiry of a general nature or relating to the status of this Application should be directed to the Technology Center receptionist at (703) 308-2168.



Naschica S. Morrison
Patent Examiner
Art Unit 3632
2/25/02


ANITA KING
PRIMARY EXAMINER